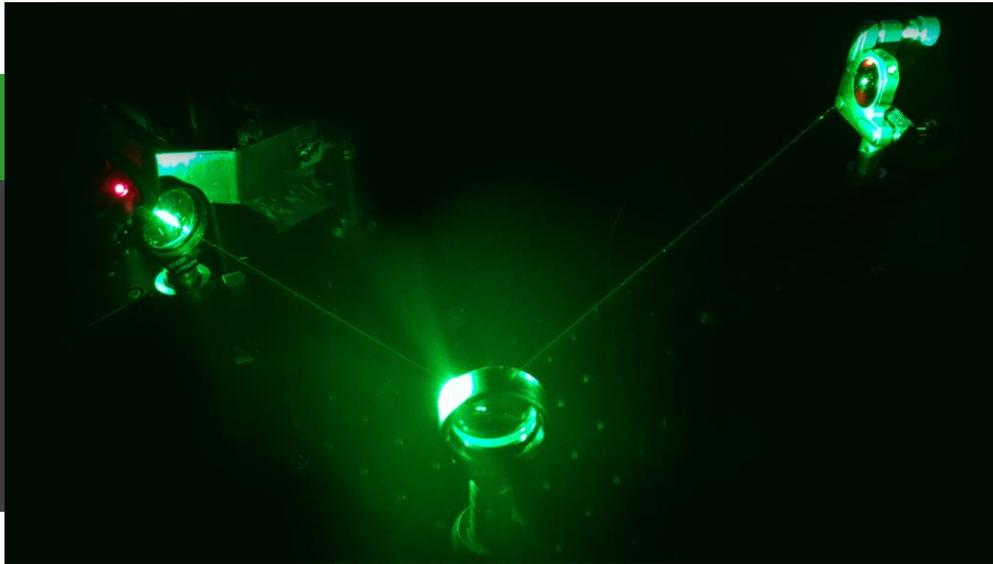




An event of the CiS e.V.



CiS Workshop on Quantum Technologies

1st - 2nd October 2020



ZUSE-GEMEINSCHAFT
FORSCHUNG, DIE ANKOMMT.
GRÜNDUNGSMITGLIED

Topics & Call for Papers



At the beginning of **October 2020**, CiS e.V. and the CiS Research Institute will organize a versatile workshop on the topic of

"Workshop on Quantum Technologies"

In our sessions you can expect exciting presentations from representatives from research and industry on

1. **Q.Sensing**
2. **Q.Communication**
3. **Q.Enabling technologies**
 - a) **Assembly & Packaging**
 - b) **Control & Readout Electronics**
4. **Q.Computing**

Take advantage of this opportunity to network with experts and keep up to date on current development trends. You will find further information at www.cismst.de.



Q.Sensing

... sensing on the quantum limit by means of defect centers in Diamond

- Room-temperature magnetometry for industry purposes
- Miniaturized measurement setups
- Further measures related to color-centers
- Quality issues in the related process chain

Prospective speakers

- *Meijer group (U Leipzig)*
- *Wrachtrup group (U Stuttgart)*
- *Jelezko group (U Ulm)*
- *Maletinsky group (U Basel, tbc)*

Q.Communication

... based on single and very few photons

- Single-Photon Detectors (SPD)
- Low-Gain Avalanche photo detectors (single and arrays)
- High Quantum efficiency
- Miniaturized correlation setups and measurements (HBT)

Prospective speakers

- *Becher group (U d Saarlands, tbc)*
- *Weinfurter group (LMU, Munich, tbc)*
- *Tünnermann group (FhG IOF, Jena, tbc)*

Q.Enabling Technologies I

Assembly & packaging

... from system design to batch manufacturing

- Packaging of SPDs
- Alignment technologies (active optical alignment / self alignment / micro manipulation)
- Integrated photonics

Prospective speakers

- *Becker group (IOF Jena, tbc)*
- *Wilde group (IMTEK Freiburg, tbc)*

Q.Enabling Technologies II

Control & Readout electronics

... accessing Q.Technologies

- Low-power readout AQFP
- Superconducting amplifier
- Multiplexer

Prospective speakers

- *Schmidt group (IPHT, Jena, tbc)*
- *Siegel group (KIT, Karlsruhe, tbc)*

Topics & Keywords III

Q.Computing

From engineering point of view.

- Q.Information and architectures overview
- Q.Information electronics
- Requirements, from design to assembly

Prospective speakers

- Calarco group (FZ Jülich)
- Nakamura group (Riken CEMS (JP), tbc)

Call for presentations



Application is open until:
30th June 2020

Link to online application

<https://www.cismst.de/workshops/quanten-2020>



Date & Venue



- Two day Workshop in early October 2020
- **Day 1:** Thursday 1st of October
 - Workshop plus social evening event
- **Day 2:** Friday 2nd of October
 - Workshop plus company tour
- Large Conference Room at CiS Research Institute



CiS Forschungsinstitut für Mikrosensorik GmbH
CiS Research Institute for Microsensor Systems
Konrad-Zuse-Str. 14 in 99099 Erfurt, Germany



Your way to the CiS Research Institute



Car
Train
Plane

via Autobahn A4 or A71
Erfurt Central Station, Tram Line 3
Airport Erfurt Weimar (ERF)

